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HOLDER FOR ARTICLE TO BE ELECTROPLATED

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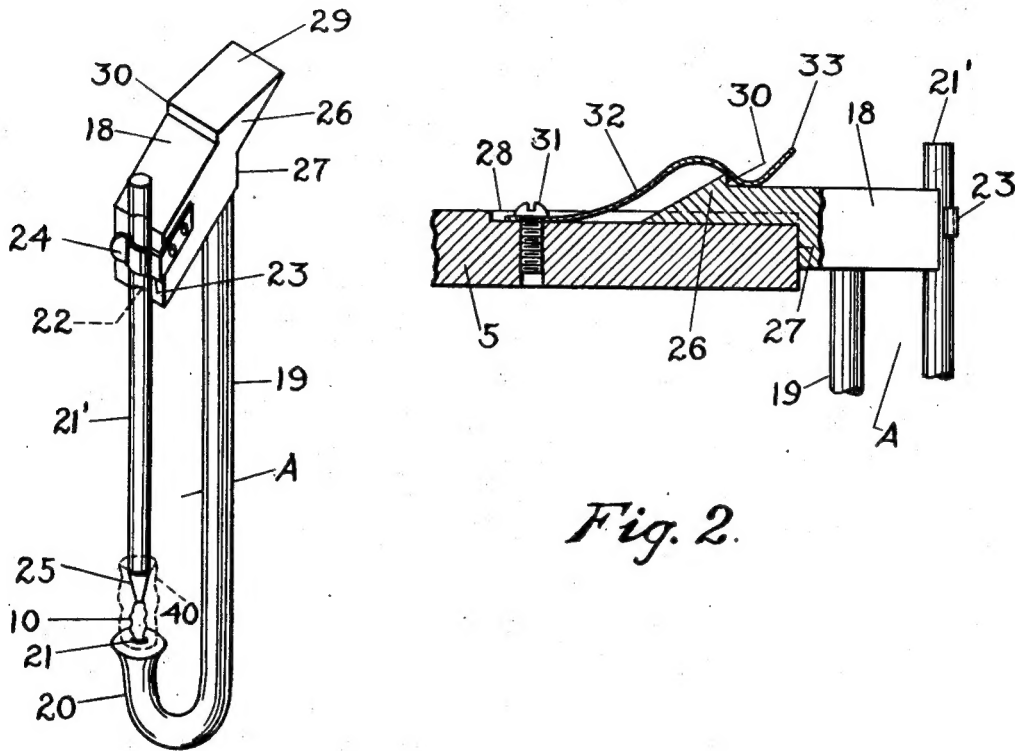


Fig. 2.

Fig. 1

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HOLDER FOR ARTICLE TO BE ELECTROPLATED

Original application filed August 14, 1926, Serial No. 129,110, which in turn is a division of application Serial No. 649,826, filed July 6, 1923, now Patent No. 1,600,722. Divided and this application filed January 9, 1931. Serial No. 507,553.

The present application is a division of my copending application, Serial No. 129,110, filed August 14, 1926, entitled "Electro-plating apparatus", said copending application in turn being a division of my application Serial No. 649,826, filed July 6, 1923, (now U. S. Patent No. 1,600,722, dated September 21, 1926) entitled "Mountings for diamonds and the like".

In U. S. Patent No. 1,600,722 above identified, I describe and claim an improved form of mounting for diamonds and the like, and also an improved method for producing the same.

Generally speaking, in producing a mounting for a diamond, in accordance with the teaching of said patent, a small piece of diamond of the proper size and shape is provided with a thin coating of conductive material, preferably in the form of a silver mirror. To the diamond thus conductively coated is applied a plurality of layers of electro-plated nickel so as to build a sufficient thickness of electroplated metal around the diamond to form holders of the desired size. A plurality of the conductively coated diamonds are preferably electroplated simultaneously, and the invention described and claimed in my copending application Serial No. 129,110, as above identified, relates specifically to improved electroplating apparatus in which a plurality of articles may be simultaneously electroplated.

The present invention relates to an improved holder for an article to be electroplated and more particularly to an improved holder for diamonds or the like which are to be electroplated in accordance with the teachings of said U. S. Patent 1,600,722 and of said copending application Serial No. 649,826. It will be obvious, however, to one skilled in the art that my improved holder may well be used to advantage with articles and apparatus other than those specifically referred to herein.

One of the objects of my invention is to provide an improved holder which is readily adjustable to support effectively the diamond or other article to be plated.

Another object of my invention is to pro-

vide an improved holder which is inexpensive to manufacture and which may be used repeatedly in electroplating processes with slight deterioration.

A further object of my invention is to provide an improved holder which may be quickly and conveniently applied or removed from the apparatus with which it is adapted to be used.

A still further object of my invention is to provide an improved holder which is so constructed that the article to be treated can be easily and quickly applied thereto and removed therefrom.

Other and further objects of my invention will be apparent upon an understanding of the preferred embodiment about to be described, or will be indicated in the appended claims, and various advantages not specifically referred to herein will occur to one skilled in the art upon employment of the invention in practice.

In order that my invention may be more clearly understood, a preferred embodiment has been chosen for purposes of illustration and description, and is shown in the accompanying drawing forming a part of this specification, wherein:

Fig. 1 is a perspective view of one form of holder embodying my invention, and

Fig. 2 is a detailed view, partly in section and partly in elevation, showing how the holder may be removably secured to a part of the cathode of an electroplating apparatus.

Referring to the drawing, the holder A consists of a support member 18 formed of conductive material. A rod 19 is secured to said member at one end, said rod depending therefrom and having a lower end portion 20 extending laterally and upwardly and provided at its end with a recess or seat 21. A small rod or wire 21' is mounted on the member 18 for movement toward and from the recess 21. The rod 19 is preferably formed of non-conductive material, such as, for example, glass, while the rod or wire 21' is formed of conductive material, preferably steel. Rod 21' is adjustably mounted for reciprocatory or sliding movement in a

vertical V-shaped groove 22, formed on the front or face of the member 18, and is yieldingly held in adjusted position as by means of a spring 23 secured to one end of the member 18 and taking over said rod, the spring being shaped adjacent its free end to conform to the rod 21, as indicated at 24. From the above description, it will be obvious that the reduced end 25 of the rod 21' can be adjusted at will with respect to the seat 21 and that the rod 21' can be easily and quickly applied to or removed from the member 18. The reduced end portion 25 is adapted to engage a diamond or other article 10 when the latter is seated in the recess 21 at the end of rod 19, to thereby secure the article in the holder.

The support 18 is provided with a rearward extension 26 cut away at its underside to form a shoulder 27. Reference character 5 indicates part of a cathode member of electroplating apparatus, which member is provided on its upper side with a recess 28 adapted to receive the portion 26 of the support 18. The shoulder 27 on the member 18 limits the inward movement of the holder with respect to the cathode member 5.

Disposed in the recess 28 and secured at one end to the cathode member 5, as by means of a screw 31, is a leaf spring 32 provided adjacent its free end with an abrupt deflected portion 33. The upper face of the rear end portion of support 18 is beveled, as indicated at 29, a shoulder 30 being formed between the beveled face and the upper face of the support. With the construction just described, the holder A may be quickly applied to the cathode member 5 by engaging the portion 26 thereof in the recess 28 and then pushing the holder inwardly until the shoulder 27 abuts the edge of the disc. In so applying the holder, the beveled face 29 engages beneath the deflected end of spring 32 and presses the latter upwardly as the holder is moved inwardly, and upon the holder reaching the limit of its inward movement, the deflected portion 33 of spring 32 snaps over the shoulder 30 of the holder, as will be apparent from Fig. 2. The spring 32 then coacts with the shoulder 30 and serves yieldingly but firmly to secure the holder to the cathode member 5. The holder may be readily and quickly removed from the cathode member merely by exerting an outward pull thereon.

In using the holder above described with electroplating apparatus, I preferably coat the rod 21' with some insulating material, such as paraffin, for example, leaving the reduced portion 25 thereof uncoated, however. The article to be plated is then mounted in the holder and secured in position by adjusting the rod 21', as heretofore described, after which the holder is mounted on the cathode member 5, as shown and

described. During the electroplating process, the deposited metal will build up around the article being plated, as indicated by reference character 40, the deposited metal adhering to the exposed reduced portion 25 but not adhering to the paraffin coated portion of the rod 21' nor to the non-conductive rod 19. After the electroplating process has been completed, the holder A may be removed from the cathode member 5, and the rod 21' with the plated article adhering to it is then removed from the support 18. A new rod 21' may then be inserted in the holder in place of that removed so as to render the holder again ready for use with the electroplating apparatus. The article plated, as described, together with the metal deposited thereon, can now be separated from the main portion of rod 21' by severing the rod closely adjacent the upper extremity of the deposited metal 40.

It will be understood that the cathode member 5 may be of any suitable form, such, for example, as a disc which may be mounted for rotation about an inclined axis, and that a plurality of my improved holders may be secured as described to the peripheral portion of the disc so that upon rotation of the disc in the operation of the electroplating apparatus each of the articles mounted in the said holders will be effectively electroplated.

It is obvious that while that form of my improved holder specifically described herein is particularly designed for use with the electroplating apparatus described in my co-pending application Serial No. 129,110 and in the production of the articles described in my U. S. Patent No. 1,600,722, such holder is also adapted for use with other apparatus and in the production of other articles.

As various changes may be made in the preferred embodiment herein described without departing from the scope and spirit of the invention, all matter herein contained is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. A holder for an article to be electroplated, comprising a support, a member secured to said support and provided with a seat adapted to support such article and a second member adjustably mounted on said support for substantially vertical movement towards and away from said seat and between which and said seat the article is adapted to be secured, and means for yieldingly holding said second member in adjusted position, substantially as described.

2. A holder for an article to be electroplated, comprising a support, a member fixed to said support at one end and provided at its other end with a seat adapted to support such article, a second member ad-

justably mounted on said support for substantially vertical movement towards and away from said seat, and means for yieldingly holding said second member in adjusted position, substantially as described.

5 3. A holder for an article to be electroplated, comprising a support formed of conductive material, a member formed of non-conductive material fixed at one end to said support and provided at its other end with a seat for such article, a second member formed of conductive material adjustably mounted on said support for sliding movement towards and away from said seat, and resilient means secured to said support and coacting with said second member for yieldingly holding the latter in adjusted position, substantially as described.

10 4. A holder for a jewel or similar article to be electroplated comprising a member provided with a seat adapted for engagement with a surface portion of such article, a second member adapted to engage another surface portion of said article, one of said members being adjustably mounted for bodily rectilinear movement in respect to the other member, and one of said members being formed of conductive material, said second member being provided with an end between which and said seat the said article is adapted to be secured upon proper adjustment of said adjustable member so that substantially all of the surface portions of said article except those in engagement with said members will be exposed, and means for securing said adjustable member in adjusted position.

15 20 25 30 35 This specification signed this 6th day of January, 1931.

40 THOS. A. EDISON.

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